

### THREE NEW GENERA, TWO NEW SPECIES, AND SOME RECTIFICATIONS IN NEOTROPICAL EULIINI (LEPIDOPTERA: TORTRICIDAE)

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*Abstract.*—Three **new genera** in the tortricid tribe Euliini are described and illustrated: *Euryeulia*, with type species *E. biocellata* (Walsingham 1914), **new combination**, from Mexico; *Pseudapina*, with type species *P. lanceovalva*, **new species**, from Venezuela; and *Circapina*, with type species *C. flexalana*, **new species**, from Costa Rica. Three **new generic synonymies** are proposed: *Pycnospina* Razowski 1997 is a junior synonym of *Lobogenesis* Razowski 1990, with the **new combination** *L. centrota* (Razowski 1997); *Osmaria* Razowski 1991 is a junior synonym of *Anopina* Obraztsov 1962, with the **new combination** *A. psaeoptera* (Razowski and Becker 1991); and *Chirotos* Razowski and Becker 1999, along with its replacement name, *Prochirotos* Razowski 2001, are junior synonyms of *Strophotina* Brown 1998, with the **new combinations** *S. chorestis* (Razowski and Becker 1999) and *S. niphochondra* (Razowski and Becker 1999).

*Key Words:* genitalia, biodiversity, synonymy, new combinations, classification, *Euryeulia*, *Pseudapina*, *Circapina*, *Pycnospina*, *Lobogenesis*, *Osmaria*, *Anopina*, *Chirotos*, *Prochirotos*, *Strophotina*

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Since 1980, more new genera ( $n = 107$ ) have been proposed in the tribe Euliini than in any other tribe of the family Tortricidae. All of these new genera are restricted to the New World tropics, presenting compelling evidence of the hyperdiversity of the group within this large and complex geographic region. Based primarily on material collected by Vitor Becker of Planaltina, Brazil, the vast majority of these genera have been described by Jozef Razowski, who has nearly single-handedly created a generic framework into which new species of Neotropical Euliini can be placed. However, this task is far from complete, with numerous described and undescribed species still defying confident generic assignment. In contrast, for some of the monotypic genera, which are numerous ( $n =$

49), relationships with other genera are becoming more clear, and there is a need to synonymize those that likely represent extremes within a single monophyletic lineage (i.e., genus). The purposes of this paper are to describe three new genera, propose the synonymy of three previously described genera, describe two new species, and propose five new combinations. The overall goal is to continue to build upon the growing generic framework for the tribe and to clarify relationships in an effort to establish a stable, meaningful classification.

#### MATERIALS AND METHODS

Specimens were obtained from or examined at the following institutions: The Natural History Museum, London, England

(BMNH); Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica (INBio); Essig Museum of Entomology, University of California, Berkeley, California, U.S.A. (UCB); National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A. (USNM); and Zoological Museum, Copenhagen, Denmark (ZMC). Genitalia preparations of representative individuals were made following the methodology summarized in Brown and Powell (2000). Illustrations of genitalia are photographs of slide mounts taken with a SONY DKC5000® digital camera and enhanced using Adobe Photoshop® and Adobe Illustrator® software. Illustrations are of a single representative preparation, but some have been slightly modified where the parts are disarticulated. Descriptions are composite, based on all available specimens. Forewing measurements were made with a transparent millimeter ruler under low power of a Leica MZ12® dissecting microscope, and estimated to the nearest one-tenth millimeter. Terminology for wing venation and genitalia structures follows Horak (1984). Abbreviations are as follows: FW = forewing; HW = hindwing; DC = discal cell; n = number of individuals examined;  $\bar{x}$  = mean; ca. = about (approximately). Elevations presented in feet on data labels are converted to meters and given in brackets.

#### SYSTEMATICS

##### *Euryulia* Brown, new genus

Type species: *Tortrix biocellata* Walsingham 1914.

Diagnosis.—Superficially, *Euryulia* is like no other genus in Euliini. Its forewing pattern, with a pair of rounded, maroon spots in the distal half of the wing (Fig. 1), is more similar to some species of *Episimus* Walsingham (Olethreutinae) than to other euliines. The genitalia, likewise, are moderately divergent from other members of the tribe. The elongate, sinuate accessory rods originating from the base of the gnathos (Fig. 4)

are reminiscent of a similar structure in *Gnaetheulia* Razowski; the capitate uncus is similar to that of *Anopina hilasma* (Walsingham) and *Gauruncus* Razowski; and the narrow valvae are reminiscent of *Ernocomutia* Razowski. The inflated apophyses posteriores in the female genitalia (Fig. 7) are similar to the those of *Paraptila* Meyrick. Putative autapomorphies include all the unusual characters mentioned above because most appear to be derived independently within *Euryulia*. The relationship of *Euryulia* to any of the mentioned genera is obscured by the large number of autapomorphies. *Euryulia* is assigned provisionally to Euliini on the basis of its possible relationship with other genera in the tribe based on the characters mentioned above.

Description.—*Head*: Antennal cilia 1.2–1.3 times width of flagellomere in male; short, unmodified in female. Labial palpus (all segments combined) ca. 1.2–1.4 times horizontal diameter of compound eye, segment II weakly upturned, rough scaled, expanded distally by scaling; segment III ca. 0.2 times as long as II, smooth scaled, with tip exposed. Maxillary palpus rudimentary. Dorsal portion of frons with short overhanging tuft of scales; lower portion smooth scaled. Ocellus moderate in size. Chaetosemata present. Proboscis present, presumably functional. *Thorax*: Dorsum smooth scaled; legs unmodified, male without foreleg hairpencil. FW length ca. 2.5 times width; DC length ca. 0.65 times FW length; DC width 0.16–0.18 times DC length;  $CuA_2$  originates ca. 0.7 along length of DC; all veins separate beyond DC; chorda absent; M-stem absent;  $CuP$  present only at margin. Raised scale tufts absent; male without costal fold. Hindwing with  $Sc+R$  and  $R_s$  approximate at base;  $R_s$  to terminus;  $R_s$  and  $M_1$  approximate at base;  $M_2$  and  $M_3$  separate;  $M_3$  and  $CuA_1$  connate. *Abdomen*: Dorsal pits absent; no modified corethrogyne scaling in female. Male genitalia (Fig. 4) with uncus weakly curved, enlarged and somewhat cordate apically. Socius moderately long, slender, ca. 0.9 times length of gnathos arms, pendant; not fused to gnathos.

Gnathos complete, arms joined distally into short triangular plate; an elongate, slender, sinuate, accessory arm arising at base of each arm of gnathos; accessory arms ca. 1.5 times length of gnathos proper. Subscaphium and hamuli absent. Transtilla a broad band, with a few small thorns. Valva narrow, costa curved ventrad just before apex; sacculus ill-defined, without free process. Pulvinus absent. Vinculum present; tegumen unmodified. Juxta an arrowhead-shaped, sclerotized plate. Aedeagus moderate in size, ca. 0.66 length of valva; vesica with small patch of tiny cornuti; phallobase simple, rounded. Female genitalia (Fig. 7) with papillae anales moderately slender; apophyses anteriores long and slender; apophyses posteriores slightly shorter, broadly inflated in anterior two-fifths, with narrow tip at anterior end. Sterigma a broad transverse band, narrowest at middle, dilated laterally; area immediately anterad of papillae anales a large, broad cup; antrum a large sclerotized bowl. Ductus bursae moderately long and broad, with a slender accessory bursa arising from right side at antrum. Corpus bursae relatively short, oblong, finely punctate; signum absent.

**Etymology.**—The genus name is derived from the Greek "eurys," meaning broad, and "Eulia", the type genus of the tribe, and is interpreted as feminine in gender.

*Euryulia biocellata* (Walsingham 1914),  
**new combination**  
 (Figs. 1, 4, 7)

*Tortrix biocellata* Walsingham 1914: 278  
 (description and illustration of adult).  
 "Eulia" *biocellata*: Powell et al. 1995: 146  
 (checklist).

**Diagnosis.**—As mentioned above, *Euryulia biocellata* cannot be confused with any other eulline. It is recognized easily by its *Episimus*-like facies and unique genitalia. The species, originally described in the Linnaean genus *Tortrix*, has nothing in common with that genus, which includes one species from Europe and one from Asia. Its transfer to "Eulia" in the Check-



Figs. 1–3. Adults of new tortricid genera. 1. *Euryulia biocellata*. 2. *Pseudapina lanceovalva*. 3. *Circapina flexalana*.

list of Neotropical Lepidoptera (Powell et al. 1995) was merely for convenience—a place for many species of Eullini that lacked meaningful generic assignment. *Eulia* is a monotypic genus that is Holarctic in distribution.

**Redescription.**—Male. **Head:** Frons white; vertex cream; labial palpus cream on inner surface, cream and pale brown on outer surface. **Thorax:** Mixed cream and pale brown, with dark brown, V-shaped band bordered at posterior edge by cream; tegula red-brown. FW (Fig. 1) length 5.9–7.2 mm ( $\bar{x}$  = 6.4;  $n$  = 4); ground color gray, with narrow, transverse, gray-brown lines, broadly bordered by pale yellow; two conspicuous, circular, tawny maroon spots, one at costa ca. 0.6 distance from base to apex, extending to lower angle of DC, the second smaller, situated midway between the costal spot and mid-termen. Fringe whitish. *Ab-*

*domen*: Pale brown. Genitalia (Fig. 4; based on 2 preparations) as described for genus.

Female. *Head and thorax*: As described for male. FW length 8.0 mm ( $n = 2$ ); as described for male. *Abdomen*: Pale brown. Genitalia (Fig. 7; based on 2 preparations) as described for genus.

Types.—Lectotype ♀, Mexico, Guerrero, Amula, 6000' [1846 m], Aug 1918, H. H. Smith (BMNH). Paralectotype ♂, same data as lectotype (BMNH). Walsingham (1914) stated "Type ♀ (66513); ♂ (66514)" which has been interpreted as the designation of a female type and a male type. Hence, a lectotype designation is necessary in order to stabilize the nomenclature and identity of this species. The female already bears a BM "lectotype" label. Walsingham's (1914) type series consists of the two specimens cited above; a third identically labeled specimen in BMNH was not included.

Additional specimens examined.—MEXICO: Durango: 3 mi E Revolcaderos, 11 Aug 1972, J. Powell (1 ♂, UCB). Guerrero: Amula, 6000' [1846 m], Aug [no year], H. H. Smith (1 ♂, BMNH); 5 km W Tixtla, 1710 m, 18 Sep 1982, J. Powell & J. Chemsak (1 ♂, 2 ♀, UCB). Sinaloa: 2 mi SW Potrerillos, 4200' [1285 m], 12 Aug 1986, J. Brown & J. Powell (1 ♂, UCB).

Distribution and biology.—*Eurytelia biocellata* has been recorded only from the middle elevations (1290–1850 m) of the Sierra Madre Occidental of western Mexico. The general habitat of the collecting localities in Durango and Sinaloa is pine-oak forest. Collection dates are August and September. All recent specimens were taken at blacklight.

### *Pseudapina* Brown, new genus

Type species: *Pseudapina lanceovalva* Brown, new species.

Diagnosis.—Superficially, *Pseudapina* is nearly indistinguishable from *Circapina*, new genus (Figs. 2, 3), described below, and based on facies alone it is hard to imagine that they are not congeneric. However,

characters of the male and female genitalia (Figs. 5–6, 8–9) provide convincing evidence that the two are distinct. Putative autapomorphies for *Pseudapina* include the slender, dorsally projecting socii and the broadly lanceolate valvae (Fig. 5). *Pseudapina* shares with *Odonthalitus bisetanus* Brown and *O. improprius* Brown a patch of strong, curved spines from the basal portion of the valva at the lateral base of the transtilla, and a distally attenuate valva (Brown 2000). The female genitalia of *Pseudapina* share with many species of *Odonthalitus* extremely short apophyses anteriores (Fig. 8). The erect, sclerotized structures from the dorsum of the tegumen interpreted as a modification of the socii in *Pseudapina* may be homologous with what has been interpreted as a paired or bifurcate uncus in *Odonthalitus*, but this is not without question. Their position and configuration also are reminiscent of the hami of Chlidanotinae, but it is highly unlikely that these structures are homologous with those found in Chlidanotinae. The putative homology of the spines of the valva and the socii/uncus, along with the extremely short apophyses, argue for a close relationship between *Odonthalitus* and *Pseudapina*. Assignment of *Pseudapina* to Euliini is based on the possession of a male foreleg hairpencil, which has been identified as a putative synapomorphy for the tribe (Brown 1990).

Description.—Male. *Head*: Antennal cilia 1.2–1.5 times width of flagellomere in male. Labial palpus (all segments combined) ca. 1.5 times horizontal diameter of compound eye; segment II weakly upturned, rough scaled, expanded distally by scaling; segment III ca. 0.5 times as long as II, smooth scaled, exposed. Maxillary palpus rudimentary. Dorsal portion of frons with short overhanging tuft of scales; lower portion smooth scaled. Ocellus small. Chaetosemata present. Proboscis present, presumably functional. *Thorax*: Dorsum smooth scaled; male with foreleg hairpencil. FW length ca. 2.5 times width; DC length 0.65–0.70 times FW length; DC

width 0.16–0.18 times DC length;  $CuA_2$  originating ca. 0.7 along length of DC; all veins separate beyond DC; chorda absent; M-stem absent; CuP present at margin. Raised scale tufts absent; male without costal fold. Hindwing with Sc+R and Rs approximate at base; Rs to termen; Rs and  $M_1$  approximately at base;  $M_2$  and  $M_3$  separate;  $M_3$  and  $CuA_1$  connate or short-stalked. *Abdomen*: Dorsal pits absent; no modified coethrogyne scaling in female. Male genitalia (Fig. 5) with uncus weakly club-shaped, gradually expanded in distal three-fourths, sparsely setose in distal one-fourth. Structure interpreted as base of socius elongate, sclerotized, attenuate, projecting dorsally, hooked apically, nearly as long as uncus; lower portion of socius short, broad, pendant. Gnathos complete, somewhat membranous basally, arms joined distally into short, hoodlike process. Subscaphium and hami absent. Transtilla with stout, sclerotized lateral bases, membranous mesally. Valva broad at base, attenuate apically, with narrow apical beak; group of 10–15 stiff, curved setae arising near base of transtilla; sacculus not developed. Pulvinus absent. Vinculum complete, well developed. Juxta a sclerotized plate. Aedeagus moderately small, narrow, weakly curved in distal one-fifth, ca. one-half length of valva; phallosome slightly elongate, simple, rounded at base; vesica without cornuti. Female genitalia (Fig. 8) with papillae anales broadly slipper-shaped; apophyses extremely short, especially apophyses anteriores. Sterigma a narrow, spiculate, transverse band. Ductus bursae extremely long, slender. Corpus bursae round, densely and evenly spiculate; signum absent.

*Etymology*.—The genus name is a contraction of the Greek "pseudos," meaning false, and "Anopina," a genus with which *Pseudapina* is superficially similar. It is interpreted as feminine in gender.

*Pseudapina lanceovalva* Brown,  
new species

(Figs. 2, 5, 8)

*Diagnosis*.—As mentioned above, *P. lanceovalva* is superficially nearly indistin-

guishable from *Circapina flexalana*, described below. Male genitalia of *P. lanceovalva* are easily distinguished by the slender, attenuate, dorsally-projecting socius, weakly club-shaped uncus, broadly lanceolate valva, and unmodified aedeagus. The group of curved spines near the base of the valva is similar to that present in two species of *Odonthalitus* Razowski. Female genitalia are distinguished by the extremely long, slender ductus bursae, which is similar to that of *Odonthalitus poas* Brown.

*Description*.—Male. *Head*: Frons, vertex, and labial palpus with cream to pale tan scales. *Thorax*: Cream to pale tan. FW (Fig. 2) length 5.8–6.1 mm ( $\bar{x}$  = 5.9;  $n$  = 2); ground color white, sprinkled with brown and red-brown scales; ill-defined basal patch of pale red-brown scales; a subrectangular patch of pale red-brown scales near middle of costa; three tiny dashes from costa between costal patch and apex; apex with ill-defined pale brown patch. Fringe alternating pale gray and pale orange. *Abdomen*: Pale brown. Genitalia (Fig. 5; based on 2 preparations) as described for genus.

Female. *Head*: As described for male. *Thorax*: FW length 7.0 ( $n$  = 1), pattern as described for male. *Abdomen*: Genitalia (Fig. 8; based on 1 preparation) as described for genus.

*Holotype*.—♂, Venezuela, Aragua, Rancho Grande [1100 m], 1–7 Aug 1967, R. W. Poole (USNM).

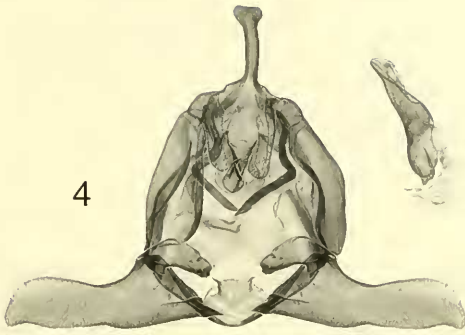
*Paratypes*.—Venezuela: Aragua: Rancho Grande, 1100 m, 24–31 Oct 1966, S. S. & W. D. Duckworth (1 ♀, USNM), 8–14 Jul 1967, R. W. Poole (1 ♂, USNM).

*Distribution and biology*.—*Pseudapina lanceovalva* is known only from the type locality. Nothing is known of the early stages. Adults have been collected in July, August, and October.

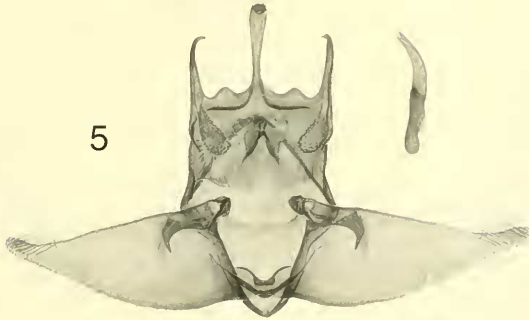
*Etymology*.—The species name refers to the broadly lanceolate shape of the valva in the male genitalia.

*Circapina* Brown, new genus

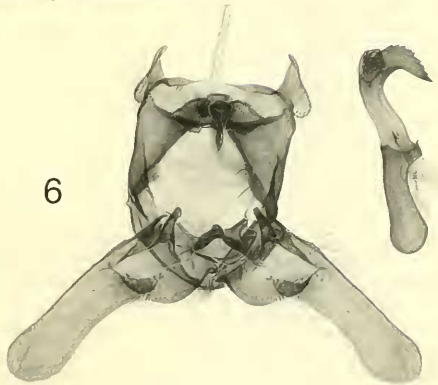
Type species: *Circapina flexalana* Brown, new species.



4



5



6

Figs. 4-6. Male genitalia. 4. *Eurytelia biocellata*. 5. *Pseudopina lanceovalva*. 6. *Circapna flexilana*.

**Diagnosis.**—Adults of *Circapina* are most similar to those of *Pseudapina* in forewing length and pattern—the two are nearly indistinguishable. However, as discussed above, the two are easily separated by numerous features of the male and female genitalia. Putative autapomorphies for *Circapina* include the slender, weakly sclerotized, sparsely hairy uncus; the erect, semicordate socii; and the broad, apically hooked aedeagus. It is likely that *Circapina* is related to *Anopina* on the basis of the elongate antennal cilia in the male, the presence of a male foreleg hairpencil, and the forewing pattern with a semicircular costal blotch, but the same could be said of *Pseudapina*. *Circapina* is assigned to Euliini on the basis of the male foreleg hairpencil, which may represent a synapomorphy for this tribe (Brown 1990).

**Description.**—Male. *Head*: Antennal cilia 1.2–1.5 times width of flagellomere in male; simple, unmodified in female. Labial palpus (all segments combined) ca. 1.5 times horizontal diameter of compound eye; segment II weakly upturned, rough scaled, expanded distally by scaling; segment III ca. 0.5 times as long as II, smooth scaled, mostly exposed. Maxillary palpus rudimentary. Dorsal portion of frons with short overhanging tuft of scales; lower portion smooth scaled. Ocellus small. Chaetosemata present. Proboscis present, presumably functional. *Thorax*: Dorsum smooth scaled; male with foreleg hairpencil. FW length ca. 2.5 times width; DC length 0.65–0.70 times FW length; DC width 0.16–0.18 times DC length;  $CuA_2$  originating ca. 0.7 along length of DC; all veins separate beyond DC; chorda absent; M-stem absent; CuP present at margin. Raised scale tufts absent; male without costal fold. *Hindwing*: Sc+R and Rs approximate at base; Rs to termen; Rs and  $M_1$  approximate at base;  $M_2$  and  $M_3$  separate;  $M_1$  and  $CuA_1$  connate or short-stalked. *Abdomen*: Dorsal pits absent; no modified corethrogyne scaling in female. Male genitalia (Fig. 6) with entire capsule somewhat robust, with tegumen broad, especially dorsal-

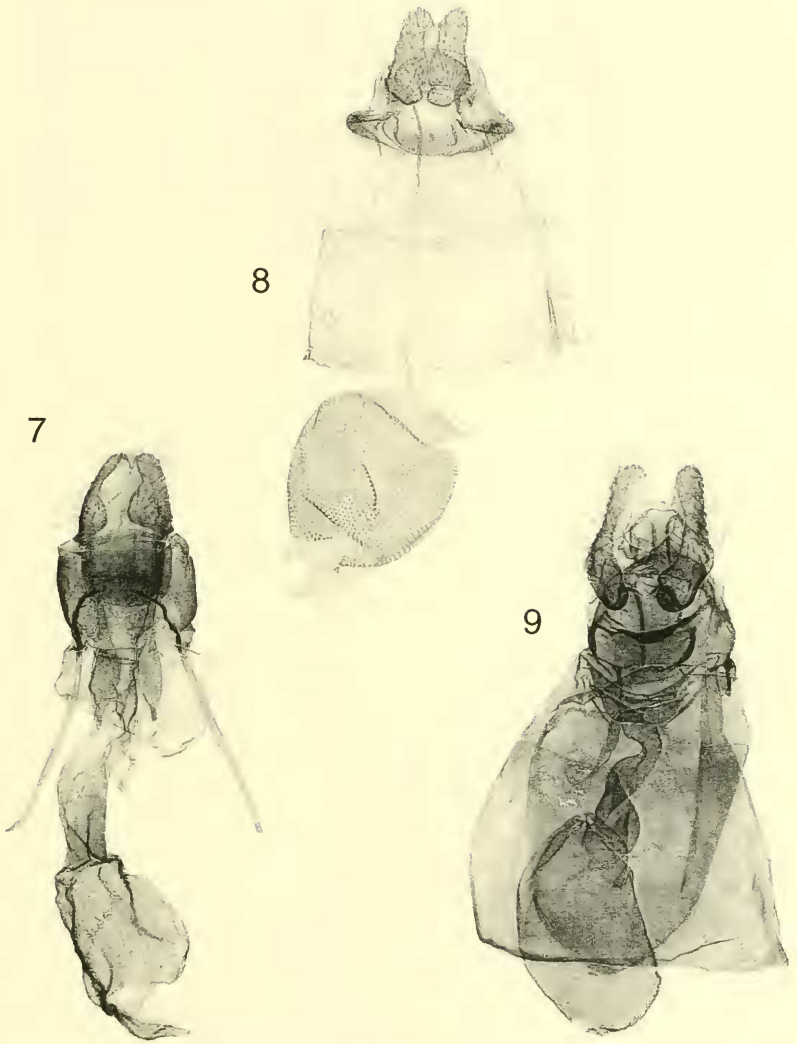
ly. Uncus simple, rodlike, very slender, weakly sclerotized, sparsely hairy. Socius sclerotized, short, erect, with fine hairs, semicordate, broad at base, attenuating apically, not fused to gnathos. Gnathos complete, arms moderately broad, short, joined distally into short, stout, hooklike mesal process. Subscaphium and hamuli absent. Transtilla digitate at lateral bases, membranous mesally. Valva broadly expanded at base, with rounded ventral portion, narrow, parallel-sided in distal two-thirds, rounded apically; densely hairy, semicircular flap in middle of basal one-third; sacculus not developed. Pulvinus absent. Vinculum complete, well developed. Juxta a sclerotized plate. Aedeagus moderately long, ca. as long as valva, broad, with distal one-fifth hooked and strongly toothed; phallobase elongate, simple, rounded. Female genitalia (Fig. 9) with papillae anales moderately broad, mostly parallel-sided; apophyses short, especially apophyses anteriores. Sterigma membranous, with quadrate lobe mesally. Ductus bursae moderate in width, weakly sinuate, lightly sclerotized, coiled one revolution. Corpus bursae oblong, finely punctate but without conspicuous spiculae; signum absent.

**Etymology.**—The genus name is a contraction of the Latin "circa," meaning near, and "Anopina," a genus with which *Circapina* is superficially similar. It is interpreted as feminine in gender.

***Circapina flexalana* Brown, new species**  
(Figs. 3, 6, 9)

**Diagnosis.**—Superficially, *Circapina flexalana* is most similar to *Pseudapina lanceovalva*. It can be distinguished from all other Euliini by the slender, hairy uncus, broad tegumen with erect semicordate socii, and broad aedeagus with curved and toothed apex. The latter feature is the most striking autapomorphy for this species.

**Description.**—Male. *Head*: Frons, vertex, and labial palpus cream to pale tan. *Thorax*: Pale tan with upraised posterior crest of shiny gray scales; tegulae whitish. FW (Fig. 3) length 4.9–6.6 mm ( $\bar{x}$  = 5.8;



Figs. 7-9. Female genitalia. 7, *Euryedia biocellata*. 8, *Pseudopina lanceovalva*. 9, *Circapina flexilana*.



$n = 12$ ); ground color white, sprinkled with brown and red-brown scales; ill-defined basal patch of pale brown scales; a semi-circular patch of pale red-brown scales near middle of costa, with an irregular, pale brown, rectangular patch immediately below; apical patch extending to mid-tornus, pale brown with red-brown overscaling. Fringe alternating gray and bronze. *Abdomen*: Pale brown. Genitalia (Fig. 6; based on 3 preparations) as described for genus.

Female. *Head*: As described for male. *Thorax*: FW length 7.0 mm ( $n = 2$ ); as described for male, except basal region of dorsum overscaled with gray. *Abdomen*: Genitalia (Fig. 9; based on 1 preparation) as described for genus.

Holotype.—♂, Costa Rica, Puntarenas Province, Monteverde, 1400 m, 22–24 Jul 1990, S. Meredith & J. Powell (UCB).

Paratypes.—Costa Rica: Guanacaste Province: Est. Cacao, lado suroeste del Volcan Cacao, 1000–1400 m, Sep 1989, C. Chavez (1♂, INBio), Jun 1990, II Curso Parataxon. (1♂, INBio), 25 Sep–11 Oct 1990, C. Chavez (1♂, INBio), Nov–Dec 1990, C. Chavez & R. Espinoza (1♂, INBio). Puntarenas Province: Monteverde, 1400 m, 22–24 Jul 1990, S. Meredith & J. Powell (4♂, 1♀, UCB), 29–31 Mar 1992, S. McCarty & J. Powell (2♂, 1♀, UCB, USNM), 8–10 Dec 1978, D. Janzen (1♂, INBio). San Luis, Monteverde, 1000–1350 m, Feb 1995, Z. Fuentes (1♂, INBio).

Distribution and biology.—*Cercapina flexalana* is known from 1000–1400 m elevation on the western side of the central cordillera of Costa Rica. All specimens examined are from two localities: Monteverde (Puntarenas Province) and SW side of Volcan Cacao (Guanacaste Province). Capture dates are scattered throughout the year from February to December.

Etymology.—The specific epithet refers to the reflexed or curved distal portion of the aedeagus.

*Lobogenesis* Razowski 1992

*Lobogenesis* Razowski 1992: 213; Powell et al. 1995: 144; Brown 2000: 25. Type

species: *Lobogenesis lobata* Razowski 1992, by monotypy.

*Pycnospina* Razowski 1997: 84. Type species: *Pycnospina centrota* Razowski 1997, by monotypy. **New synonym.**

Razowski (1997) proposed *Pycnospina* to accommodate the species *P. centrota* Razowski, described in the same paper, known only from the holotype male. Based on the description and illustration (Razowski 1997), the species *centrota* belongs in *Lobogenesis* Razowski 1992: I overlooked this species in my revision of the latter genus (Brown 2000). *Lobogenesis centrota* (Razowski), **new combination**, shares the following synapomorphies with other *Lobogenesis*: (1) uncus bifurcate and finely spined in distal one half; (2) socius with a rounded lobe extending dorsad of the point of attachment to the tegumen; (3) valva with a linear row of tiny spinelike teeth extending from subbasal spinose lobe to near apex; and (4) valva with a strong, digitate flange from basal one-third of costa. The expanded arms of the uncus beyond the bifurcation, and the club-shaped enlargement at the distal ends of the gnathos arms indicate that *L. centrota* belongs to a species group that includes *L. peruviana* Brown, *L. antiqua* Brown, and *L. contrasta* Brown (Brown 2000). Inclusion of *centrota* in *Lobogenesis* relegates *Pycnospina* to a junior synonym of *Lobogenesis*.

*Anopina* Obraztsov 1962

*Anopina* Obraztsov 1962: 2, 1967: 2; Powell 1964: 118, 1983: 39, 1986: 374; Powell et al. 1995: 142; Brown and Powell 1991: 5, 2000: 12. Type species: *Tortrix triangulana* Kearfott 1908, by original designation.

*Osmaria* Razowski 1991: 177. Type species: *Phtheochroa psaeoptera* Razowski and Becker 1986, by monotypy. **New synonym.**

In 1986 Razowski and Becker described *Phtheochroa psaeoptera* from Huatusco, Veracruz, Mexico. In 1991, Razowski rec-

ognized that the species had been placed erroneously not only in *Phtheochroa*, but in the tribe Cochylini. To remedy this situation he described a new monotypic genus, *Osmaria*, and indirectly transferred it to Eulini (i.e., "it [*Osmaria*] belongs in the group of genera close to *Popayanita* Razowski.").

Based on the description and illustration (Razowski and Becker 1986), *psaeroptera* is almost certainly a member of the *triangulana* species group of *Anopina* Obraztsov, **new combination**, as defined by Brown and Powell (2000). The overall shape of the uncus, gnathos, and valva, and the elongate antennal cilia of the male are characteristic of *Anopina*. The shape of the sacculus and the white color of the forewing are synapomorphies supporting the relationship of *psaeroptera* to a group of white *Anopina* species that includes *A. dexamatana* (Walsingham) (from Guerrero), *A. albominima* Brown and Powell (from Guerrero), and *A. albomaculata* Brown and Powell (from Sinaloa and Nayarit). See Brown and Powell (2000) for comparisons of genitalia. Inclusion of *psaeroptera* in *Anopina* relegates *Osmaria* to a junior synonym of *Anopina*.

#### *Strophotina* Brown 1998

*Strophotina* Brown 1998: 44. Type species:

*Eulia strophota* Meyrick 1926, by original designation.

*Chirotes* Razowski and Becker 1999: 417.

Preoccupied by *Chirotes* Cuvier 1817. Type species: *Chirotes chorestis* Razowski and Becker 1999, by original designation. **New synonym.**

*Prochirotes* Razowski 2001: 277. Replacement name for *Chirotes* Razowski and Becker 1999. **New synonym.**

I described *Strophotina* (Brown 1998) to accommodate *S. curvidagus* Brown (from Costa Rica) and *Eulia strophota* Meyrick (from Colombia, Ecuador, Peru, and Venezuela), with the latter designated as the type species. The following year, Razowski and Becker (1999) described *Chirotes* to ac-

commodate *C. chorestis* Razowski and Becker (type species) (from Ecuador), *C. niphochondra* Razowski and Becker (from Ecuador), and *Eulia strophota* Meyrick. There is no doubt that the two genera represent the same concept, and the synonymy is the result of a lack of communication among the authors rather than differing taxonomic opinions. The synonymy of *Chirotes* and its replacement name, *Prochirotes*, with *Strophotina* results in two **new combinations**: *Strophotina chorestis* and *S. niphochondra*.

My interpretation of species limits within the genus differs from that presented by Razowski and Becker (1999). I treated all specimens (4♂, 6♀) from South America (i.e., Colombia, Ecuador, Peru, and Venezuela) as conspecific (i.e., *strophota*), although I indicated that it is possible that more than one species was represented in the material (Brown 1998). Razowski and Becker (1999) considered specimens (2♀) from Carchi, Maldonado, Ecuador, to represent *strophota*, and the specimen (♂) from Baeza, Napo, Ecuador, to represent *chorestis*. Although I suspect that the two names are synonyms, the paucity of material inhibits reliable conclusions. In addition, I suspect that *niphochondra* represents a different, undescribed genus closely related to *Strophotina*. I have examined two males from Chile (ZMC) that are congeneric with *niphochondra*. These males (including the type of *niphochondra*) have short, more attenuate valvae, a broad, stout aedeagus that is quite different from that of *Strophotina*, a unique tongue-like mesal portion of the transtilla, and lack the dense row of spines from the costa of the valva. While it is possible that these features are autapomorphies at the species level, I suspect that they represent characters that define a new genus.

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